## REMARKS

Claims 1-4 and 10 are pending in the application. Claims 1-3 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,445,536 to Rudy et al. ("Rudy"). Claim 4 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Rudy. Applicant respectfully traverses the rejections and requests the Examiner to withdraw the pending rejections in light of the following remarks.

### I. Rejections to Claims 1-3

Claims 1-3 are patentable because Rudy does not disclose an upper magnetic pole layer and a stopper layer formed of an insulating material.

Claims 1-3 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Rudy because Rudy discloses each and every element of claims 1-3.

Claim 1 is directed to a thin film magnetic head. Claim 1 includes a lower core layer, an upper core layer and at least one insulating layer positioned therebetween. A track width restricting groove is formed in the insulating layer. A lower magnetic pole layer continues from the lower core layer and an upper magnetic pole layer continues from the upper core layer. A gap layer is positioned between one of the core layers and one of the magnetic pole layers that opposes the core layer or between the two magnetic pole layers being provided in the track width restricting groove. A stopper layer is placed between the lower core layer and the insulating layer, excluding the track width restricting groove. The stopper layer is formed of an insulating material having at etching rate lower than a reactive ion etching rate of the insulating layer.

On the other hand, Rudy discloses a thin magnetic film structure including a layer 100, a lower HBsat layer 116, an upper HBsat layer 120, a dielectric layer 110, a cavity 114, a buffer layer 102 and a gap layer 118 as shown in the following Fig. 1O.

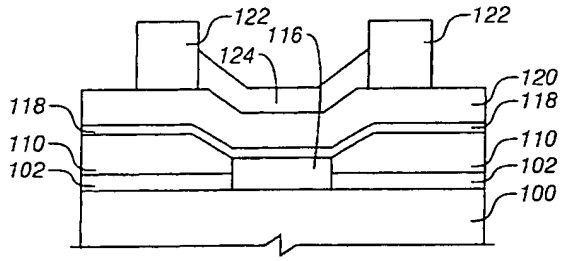



FIG. 10

Applicant submits that Rudy does not disclose all elements of claim 1. The Office Action concedes that Rudy does not disclose (i) the upper magnetic pole layer, (ii) the upper magnetic pole continuing from the upper core layer. The Office Action, however, appears to assert that because claim 1 recites "at least one" of a lower magnetic pole layer and an upper magnetic pole layer, Rudy anticipates claim 1 by disclosing the lower magnetic pole layer, i.e., the lower HBsat layer 116. Claim 1 has been amended to delete the phrase, "at least one of" and claim 1 as amended recites a lower magnetic pole layer and an upper magnetic pole layer. Rudy does not disclose (i) the upper magnetic pole layer and (ii) the upper magnetic pole layer continuing from the upper core layer.

Furthermore, Rudy does not disclose that the stopper layer is formed of an insulating material. The Office Action asserts that the buffer layer 102 formed of metallic Tantalum or Chromium is the stopper layer formed of an insulating material. The dictionary definition of the term, "insulate" is "to separate from conducting bodies by means of nonconductors so as to prevent transfer of electricity, heat or sound."[1] In the semiconductor field, the term, "insulator" means "a substance that will not conduct electricity; for example, silicon dioxide and silicon nitride."[2] In Rudy, the buffer layer 102 is formed of metal, i.e., Chromium or Tantalum and is not formed of an insulating material.

Based on the above, Applicant submits that Rudy does not anticipate claim 1. Nor does Rudy anticipate claims 2 and 3 that depend from claim 1 plus additional feature. Accordingly, Applicant respectfully requests the Examiner to withdraw the rejections to claims 1-3.

**II. Rejections to Claim 4**

Claim 4 is patentable because Rudy does not disclose the stopper layer formed of at least one of $Al_2O_3$ and $Si_3N_4$ defined in claim 4, either alone or in combination.

Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Rudy. The Office Action concedes that Rudy remains silent with respect to a stopper layer being formed of at least one of $Al_2O_3$ and $Si_3N_4$. However, the Official notice is

[1] Merriam-Webster's Collegiate Dictionary p. 649 (11th ed. 2003).
[2] *See* http://www.sematech.org/resources/publishing/dictionary/i.htm (last accessed September 19,2004).

taken that etchant stopping layers as being formed of at least one of $Al_2O_3$ and $Si_3N_4$ are notoriously old and well known and ubiquitous in the art.

Applicant submits that Official Notice without documentary evidence is appropriate in a limited circumstance where "the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well known." MPEP § 2144.03 at 2100-131. Applicant submits that the recited stopper layer formed of at least one of $Al_2O_3$ and $Si_3N_4$ in claim 4 is neither well-known fact nor common knowledge in the claimed configuration, so that it is not capable of instant and unquestionable demonstration as being well-known. Accordingly, Applicant respectfully requests that the Office Action either prove that the recited stopper layer is capable of instant and unquestionable demonstration as being well-known or provide documentary support in the next Office Action.

Further, in Rudy, there is no motivation to replace the buffer layer formed of metallic Chromium or Tantalum with a buffer layer formed of at least one of $Al_2O_3$ and $Si_3N_4$. Rudy teaches away such replacement by specifying that the buffer layer is formed of Chromium, Tantalum and the like. *See* Rudy, Col. 3, lines 59-62. Because $Al_2O_3$ and $Si_3N_4$ are an insulating material, no motivation exists to replace the buffer layer formed of metal with an insulating material.

Even if Rudy may be modified to have the buffer layer formed of at least one of $Al_2O_3$ and $Si_3N_4$, Rudy as modified does not disclose every element of claim 4. Claim 4 indirectly depends from claim 1 plus additional features. As discussed in Section I above, Rudy does not disclose an upper magnetic pole layer and a stopper layer formed of an insulating material recited in claim 4.

Based on the above, Applicant submits that Rudy does not teach or suggest claim 4, either alone or in combination. Applicant respectfully requests the Examiner to withdraw the rejection to claim 4.

**III. New Claim 10**

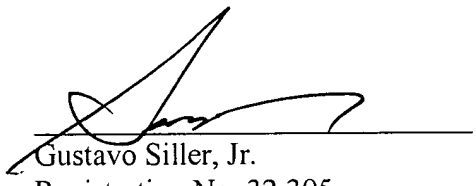
Claim 10 is patentable for reasons that it cites a thin film magnetic head wherein a gap layer and an upper magnetic pole layer are disposed in a portion of an insulating layer excluding at least one slant surface. On the other hand, Rudy does not disclose the recited thin film magnetic head of claim 10.

Please note that claim 10 is being presented to provide additional coverage for a thin film magnetic head and so is not being presented for reasons of patentability as defined in *Festo Corporation v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd., 535 U.S. 722 (2002)*.

## CONCLUSION

In view of the arguments above, pending claims 1-4 and 10 are patentable. Applicant respectfully requests the Examiner to grant early allowance of this application. If for any reason, the Examiner is unable to allow the application in the next Office Action and believes that an interview would be helpful to resolve any remaining issues, he is respectfully requested to contact the undersigned attorneys at (312) 321-4200.

Respectfully submitted,



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